PROP. XVII.

If rays of any one ſort paſs perpendicularly into ſeveral mediums, the intervals of the fits of eaſy reflexion and tranſmiſſion in any one medium, is to thoſe intervals in any other as the ſine of incidence to the ſine of refraction, when the rays paſs out of the firſt of thoſe two mediums into the ſecond.

This is manifeſt by the 10th Obſervation.

PROP. XVIII.

If the rays which paint the Colour in the confine of yellow and orange paſs perpendicularly out of any medium into Air, the intervals of their fits of eaſy reflexion are the $\frac{1}{89000}$th part of an Inch. And of the ſame length are the intervals of their fits of eaſy tranſmiſſion.

This is manifeſt by the 6th Obſervation.

From theſe Propoſitions it is eaſy to collect the intervals of the fits of eaſy reflexion and eaſy tranſmiſſion of any ſort of rays refracted in any Angle into any medium, and thence to know, whether the rays ſhall be reflected or tranſmitted at their ſubſequent incidence upon any other pellucid medium. Which thing being uſeful for underſtanding, the next part of this Book was here to be ſet down. And for the ſame reaſon I add the two following Propoſitions.

PROP.

PROP. XIX.

If any ſort of rays falling on the polite ſurface of any pellucid medium be reflected back, the fits of eaſy reflexion which they have at the point of reflexion, ſhall ſtill continue to return, and the returns ſhall be at diſtances from the point of reflexion in the arithmetical progreſſion of the numbers 2, 4, 6, 8, 10, 12, &c. and between theſe fits the rays ſhall be in fits of eaſy tranſmiſſion.

For ſince the fits of eaſy reflexion and eaſy tranſmiſſion are of a returning nature, there is no reaſon why theſe fits, which continued till the ray arrived at the reflecting medium, and there inclined the ray to reflexion, ſhould there ceaſe. And if the ray at the point of reflexion was in a fit of eaſy reflexion, the progreſſion of the diſtances of theſe fits from that point muſt begin from 0, and ſo be of the numbers 0, 2, 4, 6, 8, &c. And therefore the progreſſion of the diſtances of the intermediate fits of eaſy tranſmiſſion reckoned from the ſame point, muſt be in the progreſſion of the odd numbers 1, 3, 5, 7, 9, &c. contrary to what happens when the fits are propagated from points of refraction.

PROP. XX.

The intervals of the fits of eaſy reflexion and eaſy tranſmiſſion, propagated from points of reflexion into any medium, are equal to the intervals of the like fits which the ſame rays would have, if refracted into the ſame medium